



Option contracts for allocating water in inter-basin transfers: the case of the Tagus-Segura Transfer in Spain

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Users in the Mediterranean region face significant water supply risks. Water markets mechanisms can provide flexibility to water systems run in tight situations. The largest water infrastructure in the Iberian Peninsula connects the Segura and Tagus Basins. Stakeholders and politicians in the Tagus Basin have asked that water transfers between the two basins be eventually phased out. The need to increase the statutory minimum environmental flow in the middle Tagus and to meet new urban demands is going to result in a redefinition of the Transfer's management rules, leading to a reduction in the transferable volumes. To minimise the consequences of such restrictions to irrigators in the Segura Basin who depend on the transferred volumes, we propose the establishment of water option contracts between both basins that represents an institutional innovation with respect to previous inter-basin spot market experiences. Based on the draft of the new Tagus Basin Plan, we propose both a modification of the Transfer's management rule and an innovative inter-basin option contract. The main goal of the paper is to define this contract and evaluate it with respect to non-market scenarios. We also assess the resulting impact on environmental flows in the Tagus River and water availability for users in the Segura Basin, together with the economic impacts of such contract on both basins. Our results show that the proposed option contract would reduce the impact of a change in the transfer's management rule, and reduce the supply risks of the recipient area.

Keywords: environmental flow, inter-basin transfer, option contracts, Tagus-Segura, water markets, water supply reliability.